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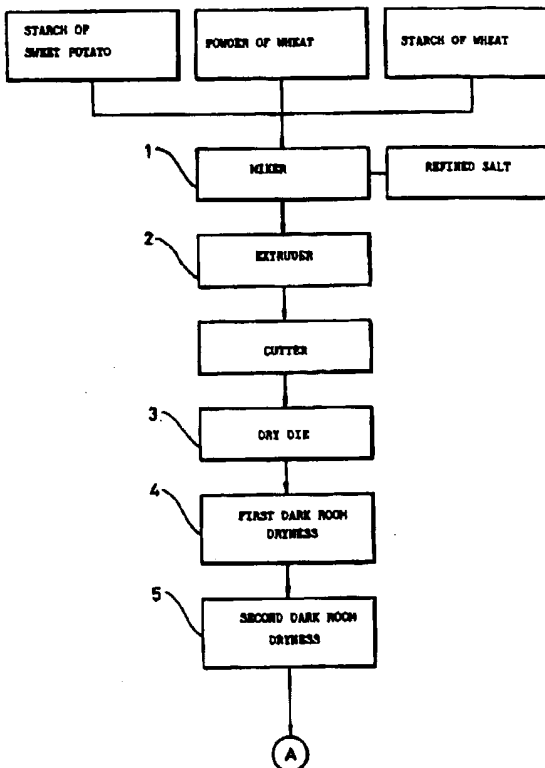
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(54) Title: TOOTHPICK OF NOODLE TYPE USING AGRICULTURAL PRODUCTS AND MANUFACTURING METHOD THEREOF

(57) Abstract

A toothpick is made of the mixture including sweet potato's starch of 30 %, wheat's starch of 20 % and wheat's powder of 47 % with refined salt of 3 % to have the predetermined humidity and stiffness, in which sweet potato's starch of 30 % wheat's powder of 47 %, wheat's starch of 20 % and refined salts of 3 % are mixed in a predetermined amount along with water at a mixer, the mixture is kneaded/boiled at an extruder provided with a heating device and then extruded therefrom to have a proper thickness in the form of a cylinder, the first processed member is cut in a thin noodle size suitable for drying and dehydrated on a drying die, the cut members are firstly dried in a dark room and secondly in a dehydro-freezing room for a predetermined time period, the complete dried members are separated from one another and again cut in a predetermined length, and the second processed members are pointed at both ends or one end. Therefore, the noodle type toothpicks are hard enough to use it like a wooden toothpick.



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TOOTHPICK OF NOODLE TYPE USING AGRICULTURAL PRODUCTS  
AND MANUFACTURING METHOD THEREOF

5 Technical Field

The invention is related to providing a new toothpick of a noodle type using agricultural products, for example starch of sweet potatoes and wheats and powder of wheats, and a manufacturing method thereof.

- 10 The agricultural products includes sweet potato's starch, wheat's starch and wheat's powder that are previously processed from their materials.

Background Art

- 15 All sorts of toothpicks that has been used in present are made of wood materials, but they can be partly made of synthetic resins that are injected using a predetermined mold. It is well known to public that the toothpicks are different from foodstuffs in respect of their components.

- 20 As a result, it often happens that leftovers of food wrongly fed with toothpicks being mixed thereto give a fatal hurt on the mouth and throat of livestocks in the underdeveloped countries using leftovers of food as feedstuffs. Thus, the remainders must be carefully dealt to  
25 prevent the environment pollution. If a large amount of food's leftovers is thrown away anywhere in a bad manner with wastes or discharged into drains, it causes not only the environment pollution but also generates contaminants.

- Also, the wooden toothpick is so hard that users must be  
30 careful not to hurt their teethridge by mistakes in use. The

mass-production of the wooden toothpick brings about the extravagance of the lumber as a natural resource, following by the nature damage.

The synthetic resin toothpicks injection-molded can be met with the consumer's tastes with a result that their shapes and colors in a material respect are freely selected, while their structures are fabricated as one desires, but they also causes the nature environment to be contaminated, because they are not dissolute or does not rot for a long time period.

10 Accordingly, a main of the invention is to provide a new toothpick of a noodle type using agricultural products for rotting itself in a fast speed and a manufacturing method thereof, thereby preventing the environment pollution.

#### 15 Disclosure of Invention

According to the invention, a toothpick has a constant stiffness to maintain a predetermined shape, in a manner that sweet potato's starch of 30% wheat's powder of 47%, wheat's starch of 20% and refined salts of 3% are mixed in a  
20 predetermined amount along with water at a mixer, the mixture is kneaded/boiled at an extruder provided with a heating device and then extruded therefrom to have a proper thickness in the form of a cylinder, the first processed member is cut in a thin noodle size suitable for drying and dehydrated on a  
25 drying die, the cut members are firstly dried in a dark room and secondly in a dehydro-freezing room for a predetermined time period, the complete dried members are separated from one another and again cut in a predetermined length, and the

second processed members are pointed at both ends or one end. Therefore, the manufactured toothpicks are hard enough to use it like a wooden toothpick.

#### 5 Brief Description of Drawings

The invention now will be described in detail with reference to the attached drawings, in which:

Figs. 1A and 1B are flow charts illustrating a method for manufacturing noodle toothpicks according to the principle of  
10 the invention; and,

Fig. 2 is a perspective view illustrating noodle toothpicks manufactured according to the principle of the invention.

#### 15 Best Mode for Carrying Out the Invention

According to the invention, a toothpick is made in a general shape as shown in Fig. 1, but a noodle type using agricultural products.

The toothpick is mass-produced by a manufacturing method  
20 comprising steps as described in detail below.

As shown in Figs. 1A and 1B, the manufacturing method of the noodle toothpick is divided into three procedures.

#### FIRST PROCEDURE

25 Firstly, the invention use sweet potatoes and wheats as agricultural product to prepare an amount of starches of a sweet photo and a wheat and an amount of powder of wheat.

Then, sweet potato's starch of 30%, wheat's powder and

wheat's are mixed at a mixer 1 together with refined salt of 3% and kneaded with water.

#### SECOND PROCEDURE

5       The mixture is steamed in a predetermined temperature at an extruder 2, and then the steamed mixture is continuously drawn therefrom to form noodle stripes or lines having the thickness of about 0.7mm to 1.5mm, while cut in a predetermined length to hold on drying dies 3. The noodle type  
10 stripes are seasoned with being exposed to the atmosphere or dried by hot air to dehydrate their own wetness. Then, the noodle type stripes are dried in a dark room 4 for about 24 hours and moved to a dehydro-room 5 to be dried, again for about 24 hours.

15

#### THIRD PROCEDURE

The noodle type stripes are withdrawn from the dehydro-freezing room and then exposed to the room temperature for a predetermined time period for being separated from one  
20 another. Thereafter, they are cut in a length of about 3 to 5cm by a cutter 6 while processed to have a pointed portion at their both ends or one end. These procedures are completed by being processed to be placed under the sanitary condition and then packing a number of noodle type toothpicks A in a box.

25       On the other hand, the finished products generally have the humidity of 8 to 12% and the stiffness of 500 to 800g/cm<sup>2</sup>. Thus, the noodle type toothpick A is hard enough to be used in the same manner as the wooden toothpick. Particularly, the use

of the noodle type toothpick A is very safe in respect that the finished product is called " an agricultural product.

#### Industrial Applicability

5       The invention comprises a noodle type toothpick made of agricultural products such as starches of sweet potatoes and wheats and powders of wheats. Thus, the noodle type toothpicks can be thrown away in a storage box along with leftovers of food. If the noodle type toothpicks are remained therein for  
10 a predetermined time, they absorb the circumstantial moisture to become soft in itself like a noodle, thereby removing a fear of giving a hurt on livestock. The food's leftovers mixed with the noodle type toothpicks can be used as stockfeeds for a domestic animal. It means that the disposal  
15 of leftovers is very easy. Also, the noodle type toothpick rots in a predetermined time period. It means the protection of the natural environment.

## Claims

## 1. A noodle type toothpick comprising:

a body made of the mixture including sweet potato's  
5 starch of 30%, wheat's starch of 20% and wheat's powder of 47%  
with refined salt of 3% mixed to one another at a mixer, in  
which the mixture is kneaded/steamed and extruded from an  
extruder, dehydrated on a drying die, dried in turn in a dark  
room and a dehydro-freezing room and processed to have a  
10 predetermined shape.

## 2. The noodle type toothpick claimed in Claim 1, wherein:

the noodle type toothpick has the humidity of 8 to 12%  
and the stiffness of 500 to 800g/cm<sup>2</sup>.

15

3. A method for manufacturing a noodle type toothpick  
comprising steps of:

mixing sweet potato's starch of 30%, wheat's powder  
and wheat's together with refined salt of 3% at a mixer;

20 kneading/steaming the mixture with water at an  
extruder and extruding therefrom to form noodle stripes or  
lines having the thickness of about 0.7mm to 1.5mm;

cutting the noodle stripes in a predetermined length  
to hold on drying dies;

25 seasoning the noodle type stripes with being exposed  
to the atmosphere or dried by hot air to dehydrate their own  
wetness;

drying the noodle type stripes in turn in a dark room



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and a dehydro-room per about 24 hours;

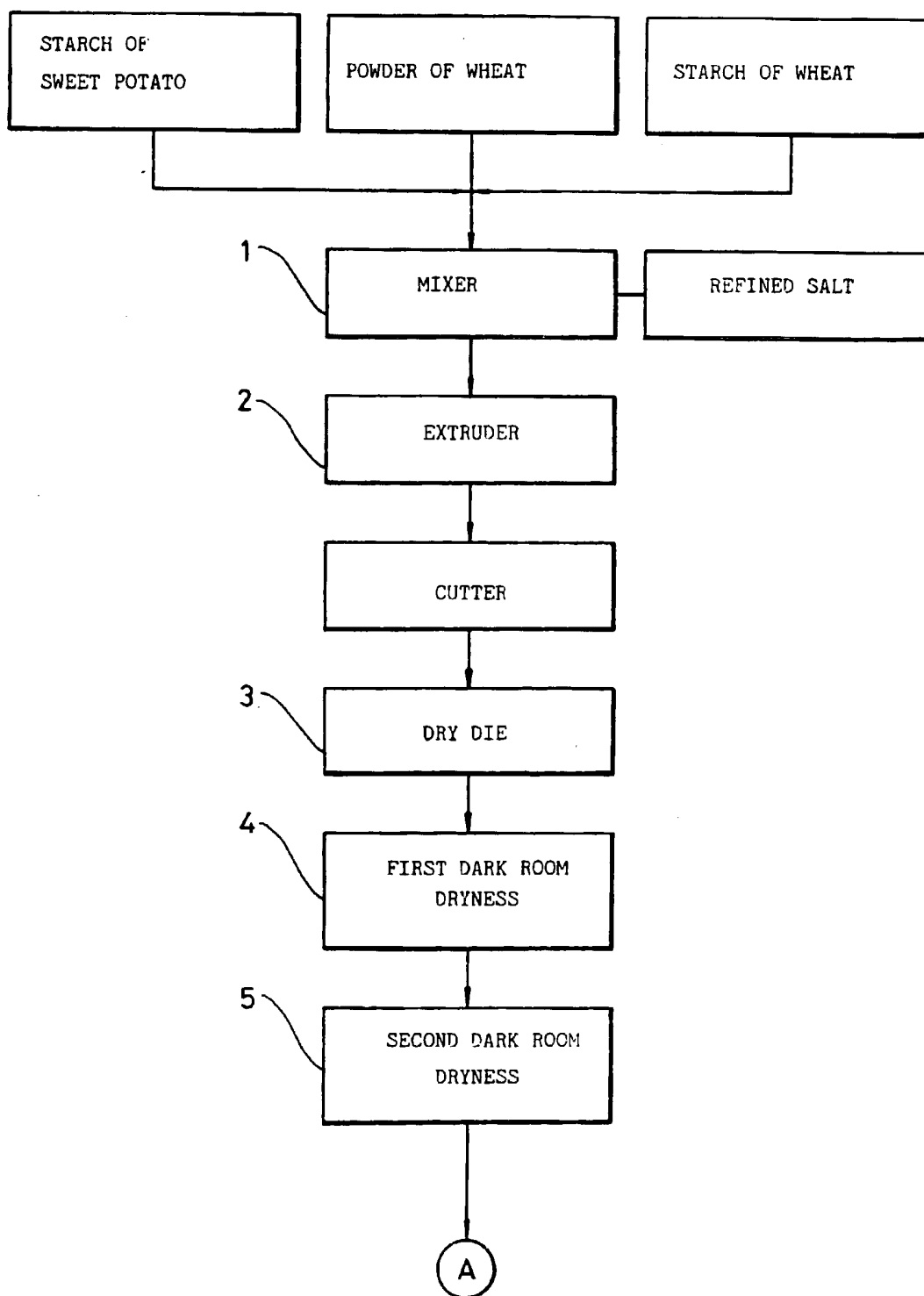
withdrawing the noodle type stripes from the dehydro-freezing room and then exposing to the room temperature for a predetermined time period for being separated from one  
5 another; and,

cutting the noodle type stripes in a length of about 3 to 5cm by a cutter and processing them to have a pointed portion at their both ends or one end.

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FIG. 1A



2/2  
FIG. 1B

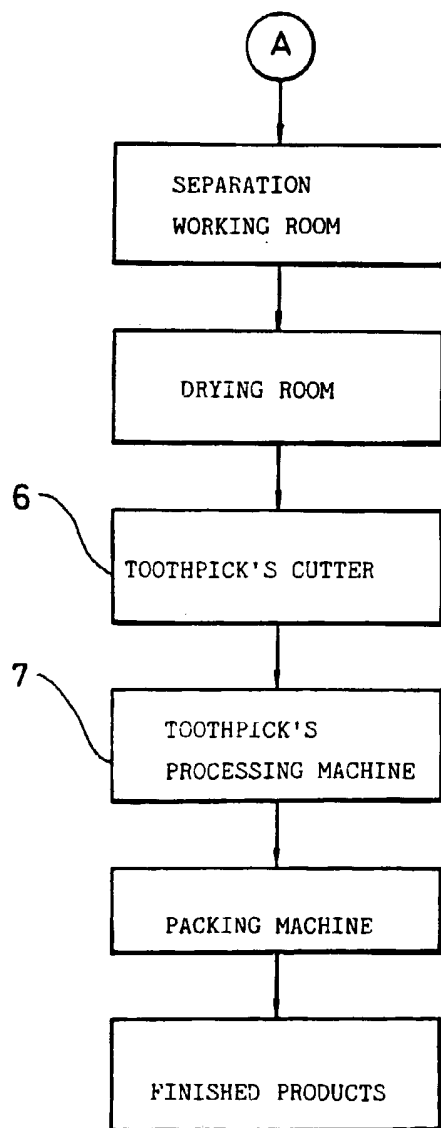
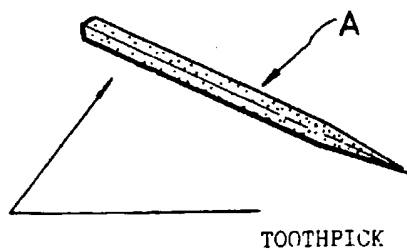


FIG. 2



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR 95/00116

## A. CLASSIFICATION OF SUBJECT MATTER

IPC<sup>6</sup>: A 61 C 15/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC<sup>6</sup>: A 61 C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CH 196 070 A (HAEBERLIN) 16 May 1938 (16.05.38), totality.	1-3
A	US 973 842 A (BAIRD) 25 October 1910 (25.10.10), totality.	1-3
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☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.

PCT/KR 95/00116

Im Recherchenbericht angeführtes Patentedokument Patent document cited in search report Document de brevet cité dans le rapport de recherche	Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets	Datum der Veröffentlichung Publication date Date de publication
CH A 196070		keine - none - rien	
US A 973842		US A 4242076	30-12-80
		CH A 626976	15-12-81
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